CPC COOPERATIVE PATENT CLASSIFICATION

C01G COMPOUNDS CONTAINING METALS NOT COVERED BY SUBCLASSES C01D OR C01F (metal hydrides { monoborane, diborane or addition complexes thereof } C01B 6/00; salts of oxyacids of halogens C01B 11/00; peroxides, salts or peroxyacids C01B 15/00; thiosulfates, dithionites, polythionates C01B 17/64; compounds containing selenium, or tellurium C01B 19/00; binary compounds of nitrogen with metals C01B 21/06; azides C01B 21/08; { compounds containing nitrogen, other non-metals and metal C01B 21/082 }; metal amides C01B 21/092; nitrites C01B 21/50; { compounds of noble gases C01B 23/0005 }; phosphides C01B 25/08; salts of oxyacids of phosphorus C01B 25/16; carbides C01B 31/30; compounds containing silicon C01B 33/00; compounds containing boron C01B 35/00; compounds having molecular sieve properties but not having base-exchange properties C01B 37/00; compounds having molecular sieve and base-exchange properties, e.g. crystalline zeolites, C01B 39/00; cyanides C01C 3/08; salts of cyanamide C01C 3/16; thiocyanates C01C 3/20)

WARNING

Groups C01G 51/30 to C01G 51/70 and C01G 53/40 to C01G 53/70 do not correspond to former or current IPC-groups. The concordance CPC : IPC is as follows: - C01G 51/30 - 51/70 : C01G 51/00 - C01G 53/40 - 53/70 : C01G 53/00

C01G 1/00 **Methods of preparing compounds of metals not covered by subclasses C01B , C01C , C01D , or C01F , in general** (electrolytic production of inorganic compounds C25B 1/00)

C01G 1/02 . Oxides

C01G 1/04 . Carbonyls

C01G 1/06 . Halides

C01G 1/08 . Nitrates

C01G 1/10 . Sulfates

C01G 1/12 . Sulfides

C01G 1/14 . Sulfites

C01G 3/00 **Compounds of copper**

C01G 3/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 3/006 . { Compounds containing, besides copper, two or more other elements, with the exception of oxygen or hydrogen }

C01G 3/02 . Oxides; Hydroxides

C01G 3/04 . Halides
C01G 3/05 . . Chlorides
C01G 3/06 . . Oxychlorides

C01G 3/08 . Nitrates

C01G 3/10 . Sulfates

C01G 3/12 . Sulfides

C01G 3/14 . Complexes with ammonia

C01G 5/00 Compounds of silver

C01G 5/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 5/006 . { Compounds containing, besides silver, two or more other elements, with the exception of oxygen or hydrogen }

C01G 5/02 . Halides

C01G 7/00 Compounds of gold

C01G 7/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 7/006 . { Compounds containing, besides gold, two or more other elements, with the exception of oxygen or hydrogen }

C01G 9/00 Compounds of zinc

C01G 9/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 9/006 . { Compounds containing, besides zinc, two ore more other elements, with the exception of oxygen or hydrogen }

C01G 9/02 . Oxides; Hydroxides
C01G 9/03 . . Processes of production using dry methods, e.g. vapour phase processes

C01G 9/04 . Halides

C01G 9/06 . Sulfates

C01G 9/08 . Sulfides

C01G 11/00 Compounds of cadmium

C01G 11/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 11/006 . { Compounds containing, besides cadmium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 11/02 . Sulfides

C01G 13/00 Compounds of mercury

C01G 13/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 13/006 . { Compounds containing, besides mercury, two or more other elements, with the exception of oxygen or hydrogen }

C01G 13/02 . Oxides

C01G 13/04 . Halides

C01G 15/00 Compounds of gallium, indium or thallium

C01G 15/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 15/006 . { Compounds containing, besides gallium, indium, or thallium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 17/00 Compounds of germanium

C01G 17/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 17/006 . { Compounds containing, besides germanium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 17/02 . Germanium dioxide

C01G 17/04 . Halides of germanium

C01G 19/00 Compounds of tin

C01G 19/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 19/006 . { Compounds containing, besides tin, two or more other elements, with the exception of oxygen or hydrogen }

C01G 19/02 . Oxides

C01G 19/04 . Halides

C01G 19/06 . . Stannous chloride

C01G 19/08 . . Stannic chloride

C01G 21/00 Compounds of lead

C01G 21/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 21/006 . { Compounds containing, besides lead, two or more other elements, with the exception of oxygen or hydrogen }

C01G 21/02 . Oxides
C01G 21/04 . . Lead suboxide (Pb2O)
C01G 21/06 . . Lead monoxide (PbO)
C01G 21/08 . . Lead dioxide (PbO2)
C01G 21/10 . . Red lead (Pb3O4)

C01G 21/12 . Hydroxides

C01G 21/14 . Carbonates

C01G 21/16 . Halides

C01G 21/18 . Nitrates

C01G 21/20 . Sulfates

C01G 21/21 . Sulfides

C01G 21/22 . Plumbates; Plumbites

C01G 23/00 **Compounds of titanium** { (preparation of Ti-compounds from ores or scraps C22B 34/12) }

C01G 23/001 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 23/002 . { Compounds containing, besides titanium, two or more other elements, with the exception of oxygen or hydrogen (C01G 23/001 takes precedence) }

C01G 23/003 . { Titanates, e.g. titanates of two or more metals other than titanium (C01G 23/001 takes precedence) }
C01G 23/005 . . { Alkali titanates }
C01G 23/006 . . { Alkaline earth titanates }

C01G 23/007 . { Titanium sulfides (C01G 23/001 takes precedence) }

C01G 23/008 . { Titanium- and titanyl sulfate (C01G 23/001 takes precedence) }

C01G 23/02 . Halides of titanium
C01G 23/022 . . { Titanium tetrachloride }
C01G 23/024 . . . { Purification of tetrachloride }
C01G 23/026 . . { Titanium trichloride }
C01G 23/028 . . { Titanium fluoride }

C01G 23/04 . Oxides; Hydroxides

C01G 23/043 . . { Titanium sub-oxides }
C01G 23/047 . . Titanium dioxide
C01G 23/0475 . . . { Purification }
C01G 23/053 . . . Producing by wet processes, e.g. hydrolysing titanium salts
C01G 23/0532 . . . . { by hydrolysing sulfate-containing salts }
C01G 23/0534 . . . . . { in the presence of seeds }
C01G 23/0536 . . . . { by hydrolysing chloride-containing salts }
C01G 23/0538 . . . . . { in the presence of seeds }
C01G 23/07 . . . Producing by vapour phase processes, e.g. halide oxidation
C01G 23/075 . . . . { Evacuation and cooling of the gaseous suspension containing the oxide; Desacidification and elimination of gases occluded in the separated oxide }
C01G 23/08 . . . Drying; Calcining; { After treatment of titanium oxide }

C01G 25/00 Compounds of zirconium

C01G 25/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }
C01G 25/006 . { Compounds containing, besides zirconium, two or more other elements, with the exception of oxygen or hydrogen }
C01G 25/02 . Oxides
C01G 25/04 . Halides
C01G 25/06 . Sulfates

C01G 27/00 Compounds of hafnium

C01G 27/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }
C01G 27/006 . { Compounds containing, besides hafnium, two or more other elements, with the exception of oxygen or hydrogen }
C01G 27/02 . Oxides
C01G 27/04 . Halides
C01G 27/06 . Sulfates

C01G 28/00 Compounds of arsenic

C01G 28/001 . { Preparation involving a solvent-solvent extraction, an adsorption or an ion-exchange }
C01G 28/002 . { Compounds containing, besides arsenic, two or more other elements, with the exception of oxygen or hydrogen (C01G 28/001 takes precedence) }
C01G 28/004 . . { containing halogen }

C01G 28/005 . { Oxides; Hydroxides; Oxyacids (C01G 28/001 takes precedence) }

C01G 28/007 . { Halides (C01G 28/001 takes precedence) }

C01G 28/008 . { Sulfides (C01G 28/001 takes precedence) }

C01G 28/02 . Arsenates; Arsenites { (C01G 28/001 takes precedence) }

C01G 28/023 . . { of ammonium, alkali or alkaline-earth metals or magnesium }

C01G 28/026 . . { containing at least two metals }

C01G 29/00 Compounds of bismuth

C01G 29/003 . { Preparations involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 29/006 . { Compounds containing, besides bismuth, two or more other elements, with the exception of oxygen or hydrogen }

C01G 30/00 Compounds of antimony

C01G 30/001 . { Preparation involving a solvent-solvent extraction, an adsorption or an ion-exchange }

C01G 30/002 . { Compounds containing, besides antimony, two or more other elements, with the exception of oxygen or hydrogen (C01G 30/001 takes precedence) }

C01G 30/003 . . { containing halogen }

C01G 30/004 . { Oxides; Hydroxides; Oxyacids (C01G 30/001 takes precedence) }

C01G 30/005 . . { Oxides }

C01G 30/006 . { Halides (C01G 30/001 takes precedence) }

C01G 30/007 . . { of binary type SbX3 or SbX5 with X representing a halogen, or mixed of the type SbX3X`2 with X,X` representing different halogens }

C01G 30/008 . { Sulfides (C01G 30/001 takes precedence) }

C01G 30/02 . Antimonates; Antimonites { (C01G 30/001 takes precedence) }

C01G 30/023 . . { of ammonium, alkali or alkaline-earth metals or magnesium }

C01G 30/026 . . { containing at least two metals }

C01G 31/00 Compounds of vanadium

C01G 31/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 31/006 . { Compounds containing, besides vanadium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 31/02 . Oxides

C01G 31/04 . Halides

C01G 33/00 **Compounda of niobium**

C01G 33/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 33/006 . { Compounds containing, besides niobium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 35/00 **Compounds of tantalum**

C01G 35/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 35/006 . { Compounds containing, besides tantalum, two or more other elements, with the exception of oxygen or hydrogen }

C01G 35/02 . Halides

C01G 37/00 **Compounds of chromium**

C01G 37/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 37/006 . { Compounds containing, besides chromium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 37/02 . Oxides or hydrates thereof

C01G 37/027 . . Chromium dioxide

C01G 37/033 . . Chromium trioxide; Chromic acid

C01G 37/04 . Chromium halides

C01G 37/06 . . Chromylhalides

C01G 37/08 . Chromium sulfates

C01G 37/10 . . Chrome alum

C01G 37/14 . Chromates; Bichromates

C01G 39/00 **Compounds of molybdenum**

C01G 39/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 39/006 . { Compounds containing, besides molybdenum, two or more other elements, with the exception of oxygen or hydrogen }

C01G 39/02 . Oxides; Hydroxides

C01G 39/04 . Halides

C01G 39/06 . Sulfides

C01G 41/00 **Compounds of tungsten**

C01G 41/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 41/006 . { Compounds containing, besides tungsten, two or more other elements, with the exception of oxygen or hydrogen }

C01G 41/02 . Oxides; Hydroxides

C01G 41/04 . Halides

C01G 43/00 **Compounds of uranium**

C01G 43/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 43/006 . { Compounds containing, besides uranium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 43/01 . Oxides; Hydroxides

C01G 43/025 . . Uranium dioxide

C01G 43/04 . Halides of uranium

C01G 43/06 . . Fluorides

C01G 43/063 . . . { Hexafluoride (UF6) }

C01G 43/066 . . . . { Preparation }

C01G 43/08 . . Chlorides

C01G 43/10 . . Bromides

C01G 43/12 . . Iodides

C01G 45/00 **Compounds of manganese**

C01G 45/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 45/006 . { Compounds containing, besides manganese, two or more other elements, with the exception of oxygen or hydrogen (manganates, manganites or permanganates C01G 45/12) }

C01G 45/02 . Oxides; Hydroxides

C01G 45/04 . Carbonyls

C01G 45/06 . Halides

C01G 45/08 . Nitrates

C01G 45/10 . Sulfates

C01G 45/12 . Manganates { manganites or } permanganates

C01G 45/1207 . . { Permanganates ([MnO4 }-) or manganates ([MnO4]2-)]
C01G 45/1214 . . . { containing alkali metals }
C01G 45/1221 . . { Manganates or manganites with a manganese oxidation state of Mn(III), Mn(IV) or mixtures thereof }
C01G 45/1228 . . . { of the type [MnO2 }n- , e.g. LiMnO2, Li[MxMn1-x]O2]
C01G 45/1235 . . . { of the type [Mn2O4 }2-, e.g. Li2Mn2O4, Li2[MxMn2-x]O4]
C01G 45/1242 . . . { of the type [Mn2O4 }-, e.g. LiMn2O4, Li[MxMn2-x]O4]
C01G 45/125 . . . { of the type[MnO3 }n-, e.g. Li2MnO3, Li2[MxMn1-xO3], (La,Sr)MnO3]
C01G 45/1257 . . . . { containing lithium, e.g. Li2MnO3, Li2[MxMn1-xO3 }
C01G 45/1264 . . . . { containing rare earth, e.g. La1-xCaxMnO3, LaMnO3 }
C01G 45/1271 . . . { of the type [Mn2O8 }n-, e.g. (LaSr3)Mn2O8]
C01G 45/1278 . . . { of the type [Mn2O7 }n-, e.g. (Sr2-xNdx)Mn2O7, Tl2Mn2O7]
C01G 45/1285 . . . { of the type [Mn2O5 }n-]
C01G 45/1292 . . . { of the type [Mn5O12 }n-]

C01G 47/00 Compounds of rhenium

C01G 47/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 47/006 . { Compounds containing, besides rhenium, two or more other elements, with the exception of oxygen or hydrogen }

C01G 49/00 Compounds of iron

C01G 49/0009 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 49/0018 . { Mixed oxides or hydroxides, e.g. ferrites (C01G 49/0009 takes precedence) }
C01G 49/0027 . . { containing one alkali metal }
C01G 49/0036 . . { containing one alkaline earth metal, magnesium or lead }
C01G 49/0045 . . { containing aluminium }
C01G 49/0054 . . { containing one rare earth metal, yttrium or scandium }
C01G 49/0063 . . { containing zinc }
C01G 49/0072 . . { containing manganese }
C01G 49/0081 . . { containing iron in unusual valence state (IV, V, VI), e.g. ferrates }

C01G 49/009 . { Compounds containing, besides iron, two or more other elements, with the exception of oxygen or hydrogen }

C01G 49/02 . Oxides; Hydroxides { (C01G 49/0018 takes precedence) }
C01G 49/04 . . Ferrous oxide (FeO)
C01G 49/06 . . Ferric oxide (Fe2O3)
C01G 49/08 . . Ferroso-ferric oxide (Fe3O4)

C01G 49/10 . Halides { (C01G 49/0018 takes precedence) }

C01G 49/12 . Sulfides { (C01G 49/0018 takes precedence) }

C01G 49/14 . Sulfates { (C01G 49/0018 takes precedence) }

C01G 49/16 . Carbonyls { (C01G 49/0018 takes precedence) }

C01G 51/00 Compounds of cobalt

C01G 51/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 51/006 . { Compounds containing, besides cobalt, two or more other elements, with the exception of oxygen or hydrogen (cobaltates C01G 51/40) }

C01G 51/02 . Carbonyls

C01G 51/04 . Oxides; Hydroxides

C01G 51/06 . Carbonates

C01G 51/08 . Halides

C01G 51/085 . . { Chlorides }

C01G 51/10 . Sulfates

C01G 51/12 . Complexes with ammonia

C01G 51/30 . { Sulfides }

C01G 51/40 . { Cobaltates }

C01G 51/42 . . { containing alkali metals, e.g. LiCoO2 }

C01G 51/44 . . . { containing manganese }

C01G 51/50 . . . . { of the type [MnO2 }n- , e.g. Li(CoxMn1-x)O2, Li(MyCoxMn1-x-y)O2]

C01G 51/52 . . . . { of the type [Mn2O4 }2-, e.g. Li2(CoxMn2-x)O4, Li2(MyCoxMn2-x-y)O4]

C01G 51/54 . . . . { of the type [Mn2O4 }-, e.g. Li(CoxMn2-x)04, Li(MyCoxMn2-x-y)O4]

C01G 51/56 . . . . { of the type [MnO3 }2-, e.g. Li2[CoxMn1-xO3], Li2[MyCoxMn1-x-yO3]

C01G 51/58 . . . . { of the type [Mn2O8 }n-]

C01G 51/60 . . . . { of the type [Mn2O7 }n-]

C01G 51/62 . . . . { of the type [Mn2O5 }n-]

C01G 51/64 . . . . { of the type [Mn5O12 }n-]

C01G 51/66 . . { containing alkaline earth metals, e.g. SrCoO3 }

C01G 51/68 . . . { containing rare earth, e.g. La0.3Sr0.7CoO3 }

C01G 51/70 . . { containing rare earth, e.g. LaCoO3 (C01G 51/68 takes precedence) }

C01G 53/00 Compounds of nickel

C01G 53/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 53/006 . { Compounds containing, besides nickel, two or more other elements, with the exception of oxygen or hydrogen (nickelates C01G 53/40) }

C01G 53/02 . Carbonyls

C01G 53/04 . Oxides; Hydroxides

C01G 53/06 . Carbonates

C01G 53/08 . Halides

C01G 53/09 . . Chlorides

C01G 53/10 . Sulfates

C01G 53/11 . Sulfides

C01G 53/12 . Complexes with ammonia

C01G 53/40 . { Nickelates }

WARNING

Groups C01G 53/40 to C01G 53/70 are not complete pending a reorganisation, see also C01G 53/006 and C01G 53/00]

C01G 53/42 . . { containing alkali metals, e.g. LiNiO2 }

C01G 53/44 . . . { containing manganese }

C01G 53/50 . . . . { of the type [MnO2 }n- , e.g. Li(NixMn1-x)O2, Li(MyNixMn1-x-y)O2]

C01G 53/52 . . . . { of the type [Mn2O4 }2-, e.g. Li2(NixMn2-x)O4, Li2(MyNixMn2-x-y)O4]

C01G 53/54 . . . . { of the type [Mn2O4 }-, e.g. Li(NixMn2-x)O4, Li(MyNixMn2-x-y)O4]

C01G 53/56 . . . . { of the type [MnO3 }2-, e.g. Li2[NixMn1-xO3], Li2[MyNixMn1-x-yO3]

C01G 53/58 . . . . { of the type [Mn2O8 }n-]

C01G 53/60 . . . . { of the type [Mn2O7 }n-]

C01G 53/62 . . . . { of the type [Mn2O5 }n-]

C01G 53/64 . . . . { of the type [Mn5O12 }n-]

C01G 53/66 . . { containing alkaline earth metals, e.g. SrNiO3, SrNiO2 }

C01G 53/68 . . . { containing rare earth, e.g. La1.62 Sr0.38NiO4 }

C01G 53/70 . . { containing rare earth, e.g. LaNiO3 (C01G 53/68 takes precedence) }

C01G 55/00 Compounds of ruthenium, rhodium, palladium, osmium, iridium, or platinum

C01G 55/001 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 55/002 . { Compounds containing, besides ruthenium, rhodium, palladium, osmium, iridium, or platinum, two or more other elements, with the exception of oxygen or hydrogen (C01G 55/007 takes precedence) }

C01G 55/004 . { Oxides; Hydroxides }

C01G 55/005 . { Halides }

C01G 55/007 . { Compounds containing at least one carbonyl group }

C01G 55/008 . . { Carbonyls }

C01G 56/00 **Compounds of transuranic elements**

C01G 56/001 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }
C01G 56/002 . . { by adsorption or by ion-exchange on a solid support }

C01G 56/003 . { Compounds comprising, besides transuranic elements, two or more other elements, with the exception of oxygen or hydrogen (C01G 56/001 takes precedence) }

C01G 56/004 . { Compounds of plutonium (C01G 56/001 takes precedence) }
C01G 56/005 . . { Oxides; Hydroxides }
C01G 56/006 . . { Halides }

C01G 56/007 . { Compounds of transuranic elements (C01G 56/001 and C01G 56/004 take precedence) }
C01G 56/008 . . { Compounds of neptunium }
C01G 56/009 . . { Compounds of americium }

C01G 99/00 **Subject matter not provided for in other groups of this subclass**

C01G 99/003 . { Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange }

C01G 99/006 . { Compounds containing, besides a metal not provided for elsewhere in this subclass, two or more other elements other than oxygen or hydrogen (C01G 99/003 takes precedence) }